



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,040	01/29/2002	Eric Baer	A-7273	2689

1726 7590 04/05/2006

INTERNATIONAL PAPER COMPANY
6285 TRI-RIDGE BOULEVARD
LOVELAND, OH 45140

EXAMINER

RAZA, SAIRA B

ART UNIT	PAPER NUMBER
----------	--------------

1711

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/058,040

Applicant(s)

BAER ET AL.

Examiner

Saira Raza

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19,20,24-26,31 and 36-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 19, 20, 24-26,31 and 36-42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. The rejections reflect the amended claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 19, 26, 38, 39, and 41 rejected under 35 U.S.C. 102(b) as being over Pearson et al. (WO 96/10053) as evidenced by Charrier.

4. Pearson discloses a laminar article made from a blend of polyethylene (PE) and ethylene vinyl alcohol copolymer (EVOH) (Page : Lines :: 2:28; 3:21-25; 4:1-4; 4:16- 30; 5:5 to 6:15; 11:3-4;). Pearson discloses that the laminar article can be used to films, e.g. coated paperboard products, containers. Pearson discloses that EVOH comprises about 10–40% by weight of the blend, and has an ethylene content of 48 mol%. Suitable examples of PEs include low-density polyethylene (LDPE) and polypropylene wherein LDPE has a density of 0.910-0.925 g/cm³, as evidenced by Charrier.

5. The blend of Pearson exhibits a multiple phase morphology comprising an EVOH phase and a polyolefin phase, wherein it is preferred that the EVOH phase is discontinuous. However, Pearson discloses a situation where the continuous phase [olefin polymer] is disrupted; hence EVOH forms the continuous phase. Pearson states that when particles of the blend, especially particles of the ethylene-vinyl alcohol copolymer are too large of a size, the melt blend tends to form into shaped articles having a marbled structure, because the large domains of EVOH extend to opposite boundaries of the shaped articles, thereby causing disruption of the olefin polymer. It is

Art Unit: 1711

inherent that the disrupted the olefin polymer forms a discontinuous phase, and that the extended EVOH domains form a continuous phase.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 25, 31, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearson et al. as applied to claim 19 above. Pearson discloses the claimed invention except for the exact percentage of EVOH and polyolefin present in the blend, and the ethylene content of EVOH. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the blend with 50% EVOH, 50% LDPE, and use EVOH with an ethylene content of 44 mol%, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

8. Pearson fails to disclose the limitations of claims 36 and 37. However, an artisan skilled in the art is aware that the properties of blended compositions of two immiscible polymers (such as EVOH and polyolefin) is not only a function of the natures of the two polymers and their relative proportions, but also of the phase morphology of the composition, e.g., whether one polymer or the other forms a continuous phase or the sizes of the domains of the immiscible polymers (i.e. aspect ratio). At the time of the invention, one skilled in the art, as evidenced by Pucci, recognizes that the phase morphology may be altered, depending upon how the two immiscible polymers are mixed together and that the phase morphologies can be obtained by varying the normal order of mixing the two polymers. Specifically, by using a particular mixing procedure, a particularly desirable blend can be achieved at certain proportions of the two immiscible polymers in which one of the polymers forms a continuous phase with the other polymer existing as distinct, dispersed domains therein

Art Unit: 1711

(Column: Lines :: 1:23-65). Therefore, it would have been obvious to one of ordinary skill at the time of the invention to alter the phase morphology of the EVOH/polyolefin blend composition of Pearson in order to obtain a desirable aspect ratio and percentage of continuous vs. discontinuous domains of the EVOH and polyolefin as specified in claims 36 and 37.

9. Claims 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearson et al. as applied to claims 19 and 20 above, in view of either Bradfute et al. or Rosenbaum et al. as evidenced by Svensson (EP 423511 A1)

10. Pearson discloses the claimed invention except for a tie layer is made from a modified PE. It is well known in the art to utilize a tie layer to improve the adhesion of two layers, as evidenced by Svensson (Figure 2). Both Bradfute et al. (column 3, lines 65-66) and Rosenbaum et al. (column 9, lines 65-66) show that it is known in the art that a tie layer may be made from modified PE because of their advantageous adhesive properties.

11. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a tie layer in between the blend and paper of Pearson in order to improve adhesion, also, it would have been obvious to use modified PE as the tie layer in order to further improve the interlayer adhesion.

12. Claims 40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearson et al. as applied to claims 19 above, and further in view of Fujii (US 5,091,228).

13. Pearson discloses the claimed invention except for a polyolefin comprising a branched derivative of linear polyethylene or linear low-density polyethylene. Pearson and Fujii are analogous art because they are from the same field of endeavor, formation of polyethylene based films. Fujii

Art Unit: 1711

discloses that blend of a specified amount of a branched low-density polyethylene in the linear low-density polyethylene improves the film processability and tensile properties (Column 7, Lines 46-50). It would have been obvious to one of ordinary skill at the time of the invention to substitute a blend of branched low-density polyethylene and linear low-density polyethylene for the low density polyethylene in the EVOH blend of Pearson in order to improves the film processability and tensile properties. Only a reasonable expectation of success, not absolute predictability is necessary for obviousness. *In re Longi*, 759F.2d 887, 897, 225 USPQ 645, 651-52 (Fed. Cir. 1985). An expectation is reasonable if one of ordinary skill in the art would have considered it "logical to anticipated with a high degree of probability that a trial of the combination would have been successful." *In re Pantzer*, 341 F2d. 121, 126;144 USPQ 415, 419 (CCPA 1965).

Response to Arguments

14. Examiner provided citations from the WIPO Publication of Pearson et al. provided by applicant on August 20, 2002.
15. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saira Raza whose telephone number is (571) 272-3553. The examiner can normally be reached on Monday-Friday from 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1711

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700